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Another Award for Illinois.—In publishing the list of awards made in the apiarian department of the World's Fair last year, we omitted the State Collective Exhibit of Illinois, which we are informed was recommended for an award by Judge Secor.

We are glad to be able to announce the above, for Bros. Stone and Hambaugh worked so faithfully in getting the Illinois exhibit, that they will feel that their efforts were honored, in that the exhibit collectively was recommended for an award.

Now is Your Chance—to induce your bee-keeping friends to read the BEE JOURNAL. Just see the liberal offers on page 707 of this issue. Only 50 cents to new subscribers, from now to Jan. 1, 1895! Who ever heard of such a low offer?—30 copies of the BEE JOURNAL for 50 cents!—and the sender of the new names and the money to receive a book premium! Help us to double our list, and then see what an improved journal we will give you! It's a mighty good time now to "strike us with a Club"—of new subscribers. We are very much in favor of that kind of a "strike." Try it, and see how submissively we'll take it.

Best Year for Honey.—Away down in Georgia the honey season has ended, and here is what Mr. J. B. Griffin, of that State has to say about it:

Our season for honey in this locality is now over, and it has been the best year for honey that I have ever seen.

J. B. GRIFFIN.

Cat Creek, Ga., May 29.

Good! We want to receive several thousand reports just like the above, within the next two months. The prospects in nearly all localities are excellent, and we hope that 1894 may prove to be "the best year for honey" all over the country. If such should be the case, what a joyful lot of folks bee-keepers would then be. We are ready for that "good time."

Mr. J. M. Hooker, of England, met with a serious accident on April 21st, we regret to hear. He was thrown from a vehicle in which he was riding, by the horse becoming unmanageable. His collar-bone and three ribs were broken. Mr. Hooker gave us a pleasant call when in this country last fall. He was recovering rapidly from his accident, when last heard from, and hoped to be himself again in a few weeks.

Hon. Eugene Secor, our good friend who was Judge of the apiarian exhibit at the World's Fair, was solicited to write an article reviewing the subject of bees, honey, and bee-keeping, for the permanent record which is being prepared by the World's Fair Commission. We learn that Bro. Secor complied with the request, and that his article has been accepted. While we have not seen the ac-

cepted review as sent in, we are sure that it is excellent, for certainly no one is better able to satisfactorily present the subject assigned him, than Hon. Eugene Secor—the popular Judge of the apianian exhibits at the World's Columbian Exposition.

His many friends will be pleased to learn of this new honor that has come to Mr. Secor in the solicitation and acceptance of an article that will forever appear in the company of others who will have contributed to a record of the mightiest and grandest exposition that the world ever saw.

Only Clean Sections should be used for comb honey. Soiled and old ones would better be used for kindling. New sections are so very inexpensive now, that to use any other than those in excellent condition, is hardly excusable. It pays to consider appearance in producing comb honey. Temptingly white comb honey in neat and spotless sections will find the readiest sale, and at the best price.

The Honey Prospects are thus commented upon by Mr. B. Taylor, of Forestville, Minn., in the *Farm, Stock and Home* for June 1st:

This season promises to equal that of 1890 for honey. Now, friends, do not wait until the harvest is past before making preparations. It is one of the faults of many bee-keepers that they wait until they see that there is to be a good crop before they get anything ready. Now go to work at once and get hives, supers, veils, smokers and other conveniences ready for instant use. Swarming will no doubt commence early in June this year, so get everything in order, that peace and profit may go hand in hand.

Little Thomas York Atchley was one year old on May 22nd. He has sent us his photograph, and this letter with it, written by his mamma:

DEAR BRO. YORK:—Little Thomas York sends you his little photograph. It was taken on his first birthday. He can hollow "dinner," "mamma," "bees," and say many words. He has learned for quite awhile to eat the candy out of queen-cages, when he can get hold of a cage. See, he is eating candy while his photograph was taken. He has an orange in one hand and another in his lap. See his Columbian badge of the North American bee-convention.

I think you will join me in saying he is a

sweet little boy. See how firm and solid he is, and yet so pleasant.

Little Thomas York may make you a visit some day, Providence permitting.

We are having beautiful weather, and bees never did better. Very truly,

JENNIE ATCHLEY.

Many thanks for the picture, Thomas. We hope you will grow up to be a good man. Yes, come and see us, and bring your mother along. When you get big enough to write letters yourself, we shall expect to hear from you direct. Until then, the best we can say is: Eat honey, and be happy.

A Bee-Keepers' Exchange is suggested by Rambler, in *Gleanings* for May 15th. Mr. W. A. Pryal has thoughtfully sent us a copy of "The California Fruit Bulletin"—a little weekly paper published at San Francisco, in the interest of the California Fruit Exchange, with which California bee-keepers are now trying to co-operate. The Bulletin referred to treats of the fruit crop prospects, the markets, etc., all of which will be of exceeding interest to both the producers and sellers of fruit in that State. Perhaps a Bee-Keepers' Exchange, or several of them in different parts of the country, could be modeled after the plan of the California Fruit Exchange. Next week we will quote something from the "Fruit Bulletin," explaining the objects of the Fruit Exchange, after which some bright bee-keepers may be able to suggest feasible methods by which producers of honey may be benefited by having a somewhat similar organization.

An Awful Blunder.—Dr. Miller has sent us the following to help us out on the terrible error we made on page 648, in the first line of the first column:

It's all very well, Mr. Editor, for you to say the bee-keeping world can spare my head, but how about me? It's no great thing of a head, to be sure, but it would be a great loss to me to do without it. Then, too, was it entirely necessary for you to say in such a public manner that my head was not needed? Next time you think I have a fresh attack of the big-head, just write me a private note, and see how promptly I'll wilt down without being utterly extinguished in plain print.

C. C. MILLER.

As it was a "sin of omission" (omitting the 't from the word "can't"), we hope Dr. M. will forgive us. But it was a big

mistake, and we felt a good deal smaller than usual when we beheld what we had done, or left undone. In bicycle parlance, that was the nearest we have come lately to taking a regular "header!"

Reversing Brood, Etc.—The following we have received in regard to Mr. Doolittle's management of weak colonies:

On Mr. Doolittle's article on page 628, I would like to ask two questions:

1. What does he mean by reversing the brood to build up rapidly? (I use the dovetailed hive, and Langstroth frame.)

2. In changing frames of brood as spoken of, from No. 1 to No. 2, etc., is smoking sufficient, or will the bees require sprinkling with peppermint water, as recommended in uniting colonies? W. R. Macon, Mich.

We referred the above questions to Mr. Doolittle, who replies thus:

1. By reversing the brood is meant, placing the frames of brood which occupy the center of the brood-nest on the outside, and those outside in the center. To illustrate: Suppose six combs in a hive contain brood, this would be termed the brood-nest. The two center combs would be likely to be nearly or quite full of brood; the two next (one on each side of the two just mentioned) would be from $\frac{1}{2}$ to $\frac{3}{4}$ full, while the two outside frames would be about $\frac{1}{4}$ full of brood. To reverse, is to put the two combs $\frac{1}{4}$ full in the center, and the two full ones on the outside. By so doing the queen will fill all six of the combs with brood clear down to the bottom corners, in short order.

2. No smoking or sprinkling is necessary, for with me bees never quarrel when united by alternating frames of bees, as the bees are so completely mixed up that they do not know whom to fight.

G. M. DOOLITTLE.

Dr. Howard's Foul Brood Book

—Bro. Root gave in *Gleanings* for May 15th, a very generous and kindly notice and endorsement of Dr. Howard's book on foul brood, for which we wish to express our thanks. Having had much experience with the dreaded scourge, Bro. Root is quite competent to review such a book, and here is the major portion of what he said concerning it:

So far as we are able to judge, it is the most practical and reliable book on the subject of foul brood alone that we know of. It treats it practically and scientifically. It reviews and criticises the works of Cheshire, McLain, Mackenzie, and Wm. McEvoy. The whole is put in popular form, so that any one can understand the scientific

aspect of the disease. It is made up of a series of propositions, each one of which the author demonstrates very carefully in a page or two of matter. After reading them through we can thoroughly indorse them. For instance, Prop. 2 is particularly sound. It reads as follows:

The decomposition of chilled or dead brood does not produce foul brood; and putrefactive non-pathogenic germs do not produce those of a pathogenic character.

The latter portion of the work is devoted to the treatment and cure of the disease. He says on page 25:

I regard the use of any and all drugs in the treatment of foul brood as a useless waste of time and material, wholly ineffectual, inviting ruin and total loss of bees. Any method which has not for its object the entire removal of all infectious material beyond the reach of both bees and brood, will prove detrimental and destructive, and surely encourage the recurrence of the disease. The reader is referred to the criticisms in the following reviews for further discussion of the methods of treatment.

After discussing the treatments recommended by Cheshire, McLain, Mackenzie, and McEvoy, he indorses the latter's plan by the following:

From my experience with "bacillus alvei," its nature and growth, it would seem clear that Mr. McEvoy's method, though simple and plain, would prove efficient, for it has been noted that any method which removes the foul-brood "bacillus" from the reach of bees and brood will cure the disease. His plan has for its aims, first, to remove all foul combs with their contents from the bees, and destroy them by fire; secondly, to cleanse from the bees all the honey taken with them, which contains the infectious germs, before any brood-rearing is commenced. The labor of these first four days taken away generally removes most of the infected honey, when full sheets of foundation are given, and worked out; the infected honey is consumed in comb building; brood-rearing is commenced in new, clean combs, and a healthy colony results. The work of handling the infected colonies is done "in the evening," in order that no robbing may result, to carry the infection to other colonies.

Our readers will remember that this is essentially what we have recommended, and what we used with such success in curing some 75 diseased colonies in our own apiary several years ago, with the exception that we boiled the hives. We at one time thought it was not necessary to disinfect them. Later experience showed that colonies treated and put back into their old hives without boiling, showed sooner or later the same old disease; but when the hives were immersed in nearly boiling water, the disease never reappeared.

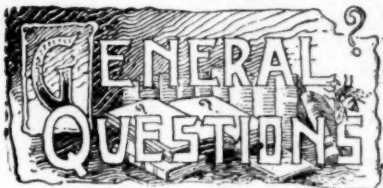
It would seem that the author, before he began his investigations, was prejudiced against the McEvoy method; but the mere fact that his studies and researches changed his previously mapped-out conclusions would indicate the fairness with which he went about the work. In the concluding paragraph of the book, he says:

Thus it will be seen that McEvoy's method of treatment, which at first was so unpopular, and seemed so far from being correct, has, much to my surprise (and, need I say, disappointment?) been shown to be the only rational method laid down among all the writers on this subject.

Many of our scientific investigators have, in the past, endeavored to make their experiments prove their previously conceived

ideas; but here is a case where it worked just the other way.

We mail Dr. Howard's valuable book for 25 cents; or club it with the BEE JOURNAL for \$1.15; or give it as a premium for sending one new subscriber to the BEE JOURNAL for a year.



ANSWERED BY

DR. C. C. MILLER,
MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Rearing Drone-Brood.

Do bees always rear drone-brood when they are given more room after being crowded for a short time?

SUBSCRIBER.

ANSWER.—No, crowding alone will not make them rear drone-brood when more room is given. Crowding alone will not make bees want to swarm, but it is one of the things that help towards it, and anything that tends toward swarming will help to make drones desired. But no amount of crowding would make them rear drone-brood during a severe dearth.

Getting Bees to Work in Supers.

When Dr. Miller speaks in his work, "A Year Among the Bees," of contracting the brood to five frames to force the bees into the super or into the sections, at what time does he expand the same? Or, in other words, when does he fill the hive with frames?

W. R.

Macon, Mich.

ANSWER.—One of the pleasant things about bee-keeping is that there is always something new, always some change to be made for the better. But that same thing becomes at times very unpleasant,

when you have committed yourself in print to some line of action and are asked about it a few years later. When I practiced taking away frames at time of putting on supers, I believe the frames were returned sometimes in two or three weeks, and sometimes later.

But I think the craze for contracting the brood-nest has pretty much passed away. At any rate, for several years I have left the same number of frames in the hive the year around.

So far as getting the bees to work in the supers is concerned, there is an easier and a better way. Simply put in the central part of the super a single section that has comb in it worked out or partly worked out. Such sections are called "bait," and the bees are always sure to take the bait. I have had bees in a poor season fill and seal the bait when they didn't touch another section.

If you haven't any such unfinished sections left over from last year, and some of your colonies are slow about starting in supers, go to a colony that has started, and take from it sections on which the bees are working, and they make fine bait. If you like, you can take bees and all.

Bad Weather—Killing Drones.

On May 18th it snowed nearly all day, and on the morning of the 19th ice had formed on water. All of the locust leaves are killed—I don't think any of the trees will blossom. I wonder if Dr. Miller could tell us why the bees are killing the drones in such large numbers now so early.

W. K.

Caledonia, Wis., May 24.

ANSWER.—Why, bless you, you've told the reason yourself. Everything looks like winter with its cold and snow, so the wise little bees concluded they could not afford the luxury of so many "gentlemen of leisure." In general, you will find that when for any considerable period there is no nectar to be had, the drones are driven out.

Pulling Out Half-Hatched Brood.

I have several colonies of bees all doing well, but in one of them the bees are pulling out half-hatched brood and young bees. There is considerably more drone brood than is necessary, I think, and there is only very little brood that will produce workers. I would like to

know what is wrong with them. I think it has a laying worker. H.

Elk Falls, Kans.

ANSWER.—You say there's more drone-brood than worker, but you don't say whether you mean inside or outside. I suppose, however, that you mean the brood that is thrown out of the hive. Very likely there is nothing for the bees to gather, in which case they may kill off the drones and throw out the drone-brood after sucking out the juices. If at the same time they are short of stores in the hive, they will not stop with the destruction of the drone-brood, but will destroy worker-brood also. Very likely you need to feed them.

Queen-Cells and Swarming.

May a swarm be expected at any time after queen-cells are sealed? H. Z. Newark, N. J.

ANSWER.—Yes, and not only that, swarms sometimes issue before queen-cells are sealed, and there have been cases in which swarms have issued before any queen-cells were started at all. Generally, however, the swarm does not issue till after the first queen-cell is sealed.

Returning the Swarms—Poppies.

1. How shall I manage to make my swarms this spring go back to the old hive? My reason for this is as follows:

I have just one colony, and do not wish to increase, and I think there is plenty of room in the hive for more bees than at present occupy it. My reason for thinking so is that I got my bees last June, and hived them in a 10-frame hive, and they did no work in the supers, but filled the brood-frames with honey, four of which I used this winter, and as yet my bees have made no attempt to build on these empty frames, so I argue that there is room enough for any swarm that may issue this spring. I want to know, also, will they swarm with these frames empty, and what is the reason they did no work in the supers last summer? How will I prevail on them to do so this summer?

2. Are poppies good or bad for bees? That is, quantities of them, or a field of them? A. M. G.

Tacoma, Wash.

ANSWERS.—It's an easy thing to make the swarm go back to the old hive. Just hive them back into the old hive, the

same as you would into an empty hive. But that is hardly answering the spirit of your question, and that isn't so easy. You can, however, take the old-fashioned way of returning the swarm to the hive every time it issues, and if you are patient enough to return it a sufficient number of times, there will be no swarming. For the swarm is likely to issue several times with the old queen unless you kill her, and you may as well kill her, for the bees will if you don't, and then a week or so after the first swarming the swarm will come out again with the oldest of the young queens, then you will return it and there will be a battle among the young queens, and after they have issued two or three times all but one queen will be killed and there will be no more swarming.

As you will see in another reply, you may shorten matters by killing the old queen at the time of swarming—if you kill the queen the swarm will go back of its own accord—and cutting out all but one queen-cell. Possibly it might be better to kill all but two cells, and as soon as one of these hatches, kill the other. Or, wait till you hear piping, then kill all the cells, for a queen is already hatched.

They are not likely to swarm with four frames empty, and it is possible that if you had left the four frames of honey there, they might have gone to work in the supers more to your satisfaction. You cannot expect them to work in supers so long as they have plenty of room in the brood-chamber. Put two dummies or boards instead of two of the empty frames, and they will go into the supers sooner. Put a piece of comb or brood in one of the sections and they will be sure to start on that.

5. I don't know whether bees get honey from poppies, but I think they do. At any rate, they get pollen from them.

Queen Laying, and Swarming.

Does a queen stop laying just before they cast a swarm? T. N. B.

Marion, Mass.

ANSWER.—When a swarm issues with a laying queen, I think you will always find an abundance of sealed brood, but very few eggs. Partly, perhaps, because she hasn't room to lay; partly, perhaps, because when in full laying she is too heavy to fly. I think it possible, however, that she may lay sparingly close up to the time of leaving the swarm

They Want to Exchange.

Meester Dr. Meeler, I like to ax mit you somedings. Mine friendt, Hans, haff lots off vrames off voundation all vired goot, und I haff lots off pees und proodt. After de honey-vlow ve vants to exchange hees frames off voundation vor som off my vrames off proodt. Effery vrame moost pe vull mit proodt und cofferd mit pees. How mooch monings he moost pay me to boot for dot, on each vrame? Hees vrames pe de best vired vons, und mine pe de werry pest Italians. GUSTY.

Hansburg, Vestgonclan.

ANSWER.—Now see here, Gusty, my dear, I'm not going to get into a quarrel between you and Hans. You must try to get into the ways of this country, and have everything on a cash basis. Take your knitting along some evening and talk it over with Hans. Settle on what you think is a fair price for your goods on each side, then deal accordingly. Or, if you're Hans' best girl, just leave it all to him, and he will make a fair bargain.

Sweet Clover—Rearing Queens, Etc.

1. I find the ecomiums on the honey-virtues of sweet clover not a few by correspondents of the "Old Reliable," but no one has (as far as I know) given any direction how to raise it. I would like to know how much seed is required per acre, and if it can be sown in the spring among the wheat like other clover, or must the soil be specially prepared?

2. When the Doolittle method of rearing queens is practiced in colonies not queenless, after the cells are formed, wherefrom is the royal jelly procured in which the young larva is placed?

3. Would there be any loss of honey, if, when a prime swarm issues, the old queen were disposed of, the old and new swarms united, and a new queen reared from the existing queen-cells? and would it prevent after-swarming, or rather, would it not prevent swarming entirely if the old queen were destroyed before the prime swarm issues?

Wadsworth, O.

H. F. R.

ANSWERS.—1. I'm not sure that I ever saw explicit instructions for raising sweet clover. I have had some experience in the matter, and it rather leads me to the conclusion that to get a good stand you should avoid doing anything that would be likely to make a success in cultivating anything else, and do everything that would be likely to make any other crop a failure.

One year I had a piece of ground beautifully prepared, and sowed with oats and sweet clover. It came up nicely, the stand was very even, but the following spring there wasn't a plant to be seen. At the same time, out on the hard roadside, where the wheels had run over it and the horses trodden upon it, there was a luxuriant growth. I suppose it should be either upon very hard ground or else so deep that freezing would not make it heave.

I don't know just how much seed is needed for an acre, and I doubt if it need make very much difference. If the plants are close, they will grow all right, and if they are two feet apart they will stool out so as to occupy the ground.

If you sow in the fall or early spring directly on sod without plowing, I think you may expect a fair stand, providing the ground is somewhat trodden by stock. I say this from the fact that some of my ground has been thus occupied, and from the fact that sweet clover flourishes on the hardest roadside without any care.

I am inclined to believe there is a future for sweet clover, when it is known that it makes excellent pasture and hay for stock that have learned to like it.

2. Of course there's no way but to get the first start of jelly from a cell of the bees' own starting, either in a colony made queenless or making preparations for swarming. After getting a start, part of your cells can be sacrificed to start others.

3. In some places I think there might be a loss of honey, as where there is a long flow or a principal fall flow, making the colony and swarm get more than the colony without swarming. In places where there is no harvest after clover, there might be no loss. If you destroy the old queen at or just before swarming, then kill all queen-cells but one at the right time, of course there will be no swarming. But that's easier said than done. It may, however, be worth some effort. Try it and report.

The Amateur Bee-Keeper,

is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the BEE JOURNAL for one year—both for only \$1.15.



CONDUCTED BY
MRS. JENNIE ATCHLEY,
 BEEVILLE, TEXAS.

PROFITABLE BEE-KEEPING.

Lesson No. 3.

(Continued from page 654.)

This lesson is likely coming before its time, but many are now anxious to get it so as to help them in June and July, to enable them, or be a help, in securing a honey crop.

PRODUCING COMB HONEY.

We will first tell how to produce comb honey. We will suppose you have kept close watch over your honey-plants, and know just about when they will be in bloom—I mean those that give your surplus, as these are the special ones, and if you do not get this part of the lesson, or have not got it noted down, this whole lesson will be a mere blank to you, for to be a successful honey-producer you *must* know when to expect your harvest, and have your bees ready to reap it.

Now, to do this, you should begin to stimulate, or see that all the queens are good, and laying nicely about six to eight weeks before your honey-flows. I do not wish to teach you to rear bees out of season, as this is a dead loss, and what I mean by "out of season" is rearing bees more than are necessary to keep up the strength of the colony when there is no prospect for a surplus ahead; and the reason I say begin six to eight weeks ahead of your flow is, that I want you to give your bees time for the second litter of brood to be hatched just about the time your harvest begins, as your bees will need the first litter to begin the work in the harvest field, and the second to complete it, in this latitude, and by this time you will have *all* booming colonies, and that means honey to you.

Now, while your bees are getting ready, you get ready, too, or you will be left with your tub bottom up. During

this six to eight weeks you must have all your sections, crates, and starters all in, just ready to place upon your hives about the third day after your harvest begins, or a little sooner will not hurt; but be sure to have them on as soon as you discover white or new comb along the top-bars of the brood-frames. But it will not pay to put them on when no honey is coming in, as the bees seem to delight in biting holes in the starters, and get the sections dirty where the same are exposed to the bees.

It will be nice to have two crates ready for each hive, as you may have a good flow, and just as soon as the first crate is about full or completed, you can raise it up and place an empty one between it and the brood-nest. This will cause the bees to cap over the sections quicker, and give you nice white honey. As soon as it is ready to take off, remove it at once, and should there be one or two sections not finished up to suit you, set them in the center of the crate the bees are at work on, and they will soon finish them up. But this you will seldom have to do, if honey has been coming in steadily.

Now watch every movement of the bees, and the flowers giving the flow, and if you are not expecting any more harvest that year, you had better begin to contract, or move some of the filled sections, and placing the unfilled in the center of the crate, and you will more than likely get *all* nicely finished sections, unless your flow ceases all of a sudden. Then you will have some unfinished sections to extract or sell at a reduced price in your home market. (Notice Selling Honey, in a future lesson.)

If your season is now over, clean up the crates, etc., and store them away in a dry place, and you will soon rejoice that you have followed my instructions.

Should you be at all this trouble and expense, and not get any honey, or but little the first year, do not be discouraged, but sing just as merrily, and be (or try to be) as happy as if you had a carload of honey to sell, for it really takes this kind of grit to make a good bee-keeper. And, dear scholars, I beg to stop right here long enough to explain to you that we *must* make up our minds at the outset to overcome, if possible, the disappointments through life, and take things just as easy as we can. Otherwise we will be wearing ourselves out unnecessarily. I believe this should be done in any kind of business that we undertake in life.

PRODUCING EXTRACTED HONEY.

Getting the bees ready for extracted honey is much the same as for comb honey. I will only add that we must work to get the bees in time to catch the harvest, and the bees *will* attend to the gathering. But we *can* get extracted honey from smaller or weaker colonies than for comb. But I say, give me great, big *booming* colonies for extracted honey, too. Why, 14 years ago this month (June) I had a colony of bees gather 521 pounds of extracted honey in 21 days. It was in a 5-story Simplicity hive with 10 frames each, and the bees could not enter at the one entrance, so I made three entrances, and when we would shake the bees off the combs on the ground, they were an inch or two deep for a foot or more around the hive.

This seems like a "fishy tale," but when explained, it is very reasonable to an average bee-keeper. It was one of the best queens I ever had, and a "dollar queen" we then called her, from A. I. Root, as *all* untested queens at that time were called "dollar queens," as that was the price they usually sold for. Well, we had a good year, and a horse-mint field within half a mile of my bees, so thick that one could scarcely walk through it, and I did not allow this colony to swarm, and the queen was *very* prolific. At the time of our harvest this colony was as large as five ordinary colonies, which accounts for the big yield.

I have related the foregoing just to show you what may be done when we are up with the times, and willing to work and make good use of the means at our hands. I will only add a word more about this colony, and say that it gave me over 500 pounds of extracted honey for *three years* in succession. I trust that you may all draw a good lesson here, and be up and doing at the right time, and if a flow of honey comes, be ready for it.

In running for extracted honey, do not worry about where the queen is laying. I would just as soon have her lay in the top as the bottom story, and like her better if she is able to fill them *all* with brood. I am willing to take the honey from any part of the hive.

I would advise you to use full-sized stories, say eight frames each, at least, Langstroth frame, which is the size I use. But any good frame will do, so that it is not larger than it ought to be to handle easily, or too small to take too many frames to accommodate the

bees with room enough. Nothing pleases me more than to have *plenty* of empty combs for producing extracted honey, as this sometimes gives us a good crop, when if the bees have to build their combs we miss a part of it.

The hive I mentioned before was supplied with frames of foundation (full sheets), and it saved me at least 100 pounds of honey.

I am a firm believer that comb foundation will pay for itself twice, if given to the bees at the proper time—*especially* if we have no full drawn combs. The latter is my preference.

We will likely meet with years, and sometimes two in succession, that we will get but little honey, but I have not failed to get some honey for 15 years, that I remember, and I do not know a season when we did not get honey—some years more, and some less.

I would let the honey get ripe, or begin extracting about the time the bees have the combs one-third sealed, and this gives us some real ripe honey that goes along with the little unripe, and keeps all good, and no objection will ever be raised by customers. But if we extract too soon, we are likely to have trouble both with our honey and customers, and ruin our market. But it saves a lot of work to take the honey when the combs are only about one-third sealed over.

During a honey-flow I take from nearly or quite all the frames in the hive, and I seldom damage any brood, as I *never* turn fast enough to throw out the little larvæ, as it does not matter whether we get the honey *all* out or not. Our main object is to give the bees room.

If care is used, no combs will be broken while extracting, even if no wires are used. But it is best to use wire for extracting-combs.

I will add here in this lesson that it is best to use some kind of an extracting house, or a place made of wire-cloth, or something else that will be cool, and still keep the bees out, as the smell of the fresh honey draws the attention of the bees, and they *will* bother more or less, sooner or later, if we do not keep them from getting a start.

To conclude this lesson, I will say that it is best to have a set of combs to start with, as then you can close up each hive, and will have to open it but once; this is an item where bees show a disposition to rob, which they will do unless honey is coming in very fast. What I mean by an "extra set of combs" is, the same number of combs empty that you will

take from one hive; then you can take out the full combs, brush off the bees, place the full combs in a comb bucket, put the empty combs in their stead, close up the hive, and all is over. I always leave two or more combs of brood and honey that I do not touch—this keeps all quiet, and no time is lost by the bees.

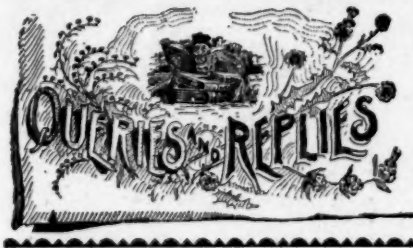
Put the honey up in screw-top cans, if you have them, or kegs or barrels, waxed inside and painted outside, or you may soon almost wish you had no honey.

I would keep the honey in a cool, dry place until sent to market.

The next lesson will be on queen-rearing, as some of you are now almost impatient to hear it.

JENNIE ATCHLEY.

(To be continued.)



The Best Size of Brood-Frame.

Query 926.—What is the best size of brood-frame to adopt, taking into consideration the size most favorable for rearing brood, the laying queen, and producing comb and extracted honey, by balancing advantages and disadvantages?—Iowa.

Langstroth.—J. H. LARRABEE.

The Langstroth is my favorite.—W. M. BARNUM.

I prefer the Langstroth frame.—MRS. L. HARRISON.

I use and prefer the Langstroth.—EUGENE SECOR.

The Langstroth frame, every time.—EMERSON T. ABBOTT.

The Langstroth size for the South.—MRS. JENNIE ATCHLEY.

We prefer a frame about 10x18. Length, horizontally.—DADANT & SON.

I use a frame the size of the Langstroth, and prefer it to any other.—J. P. H. BROWN.

I use the Gallup, but had I 50 colonies on the Langstroth, Quinby or Sim-

plicity frames, I should not think it a paying job to transfer them to other frames.—G. M. DOOLITTLE.

I never have used any but the Langstroth, and it is good enough for me.—JAS. A. STONE.

I would say the Heddon. No doubt the majority would choose the Langstroth.—R. L. TAYLOR.

The best size for a frame to be used in a single-story brood-chamber is the Langstroth.—J. A. GREEN.

I think the Langstroth frame as good as any. But be sure to use enough of them. Tier up for extracted honey.—E. FRANCE.

I don't think it makes such a tremendous difference. I am changing to 17 $\frac{1}{2}$ by 9 $\frac{1}{2}$, simply because it seems nearest standard.—C. C. MILLER.

I believe the standard Langstroth, at least in the East, or anywhere where it is most used. I suppose the Langstroth hive is referred to.—A. J. COOK.

In a commercial way the Langstroth frame is best, and for all purposes it is a good frame. Yet I have had the best success with a frame a little shorter and deeper.—H. D. CUTTING.

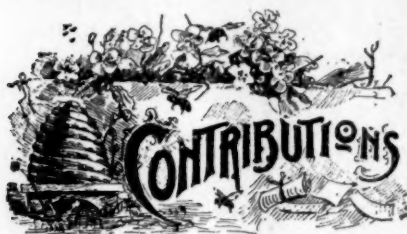
This is a leading question. I have used more Gallup hives and frames than any other, but I think if I were starting anew, that I would use the 10-frame Langstroth hive.—S. I. FREEBORN.

The "Langstroth frame," in my judgment. It is as good as any, considering the question, and the fact that it is more in use than all other styles of frames, to my mind, is proof that my judgment is correct.—J. E. POND.

The Nonpareil brood-frame is the best in my experience. It is 7x17 inches, and when filled with comb and honey it is heavy enough for easy and rapid handling. I have not been able to rear as large colonies in any other sized frame.—G. L. TINKER.

There is perhaps no better sized frame for all purposes than the standard Langstroth. If we consider brood-rearing alone, a nearly square hive would likely be better; but as honey is the object of keeping bees, the Langstroth, or even a shallower hive, answers the purpose better.—C. H. DIBERN.

Taking everything into consideration, the Langstroth frame is probably the best to adopt when entering the bee-business. There is no *charm* in a certain size frame; but almost any bee-keeper will learn practically some time or other, that it is convenient to have his bees on a standard size frame.—G. W. DEMAREE.



Reply to Rev. W. F. Clarke.

Written for the American Bee Journal

BY DR. C. C. MILLER.

You say my last letter "does not mend matters at all." I am glad to say that yours does, for in it you do the very thing that I have wanted you to do all the time—that is, you disclaim the sting-trowel theory as a fact, but hold it "merely as a matter of opinion." I only wish you had said that long ago.

You say, speaking of the lack of courtesy, "It is not the omission of initials that I chiefly find fault with, but the entire *tout ensemble* of the phrase." If I have understood you, the thing you object to is my saying "Rev. Clarke" instead of "Rev. W. F. Clarke." Is not "the omission of the initials" the "entire," complete, and whole *tout ensemble*? Please say what else there is objectionable if the initials were put in.

I have never seen "Med." used as a title, so I don't know whether it would be courteous or not. But I don't see what that has to do with the case. Putting "Med." instead of "Dr." is not a parallel case. I have not put any other title in place of "Rev." Since you have made a comparison, let us do it correctly. The two names are "Rev. W. F. Clarke" and "Dr. C. C. Miller." Omitting the initials I wrote "Rev. Clarke." To parallel that, you should write "Dr. Miller." That is exactly what you have done more than once. I did not consider it discourteous. I do not believe you meant it so.

You say "It is not grammatically correct." Have you proof of that?

You say, "I made it sufficiently plain that I put forth the sting-trowel theory merely as a matter of opinion, yet you thrust it upon me as a dogmatic and positive assertion of fact." That being the case, either you have been unfortunate in your manner of expression, or I have been lacking in comprehension.

For I have no recollection of seeing any word of yours that made on my mind the impression that you ever spoke of it as other than fact. I quote from your book, "A Bird's-Eye View of Bee-Keeping," taking the liberty to italicise the words to which I wish to call particular attention. On page 48 you say:

"And store sweet nectar in each vacant cell,

Smoothing and polishing the surface all
With that small trowel, we a dagger call,
But which by them *employed* so much is
In giving honey-comb its final touches."

It seems to me I am hardly to blame for considering "*is employed*" "a positive assertion of fact." Lest there be something in the way of poetic license that I do not fully understand, let us turn to the explanatory comment on page 60. In plain prose you there say:

"But there is something well worthy of admiration in the *fact* that the most important functions of the bee-sting are those performed in doing the artistic cell-work, and infusing the formic acid by means of which honey receives its keeping qualities." Am I to blame for considering "a positive assertion of fact" what you plainly call a "fact?"

You further say, "The sting is *really* an exquisitely contrived little trowel with which the bee finishes off and seals the cells, when they are brimful of honey." What but "a positive assertion of fact" when you say what the sting "really is?"

The scientific points you have raised you think I find unanswerable. No, I don't find them unanswerable—I'm not sure that I find them at all. I think the nearest to anything in that line is this sentence: "The microscopic appearance of the surface of the cell-work when finished is such as to bear out the idea." Have I not made a sufficient reply to that? I said, "Bees by the hundred can be seen at work on the combs, and thousands of cells are sealed. Surely if every capping is operated on as you say, you ought to be able to see one solitary instance." Further, bees can be seen by any one who takes the trouble to look, busily engaged working comb with their mandibles. I think no one has ever seen them using their stings in wax-working.

But as to the main point at issue there is no longer any controversy, for you say that you put forth the sting-trowel theory as a matter of opinion, not as a positive assertion of fact. That's all I asked. You have a perfect right to say you think bees polish combs

with their stings. I have as good a right to think such a notion rank nonsense.

In a nutshell, my chief argument is what I have given: Bees can be seen working wax, no one has ever seen them do it with the sting. Now it will be easy to upset my argument if you can show the stings at work. I challenge you to do so, or to furnish any other satisfactory proof—not satisfactory to me, but satisfactory to the editor of any bee-paper, or to any representative body of bee-keepers. That's the only controversy, I think, between us, and it's hardly worth fighting over.

Marengo, Ills.

The Flavor and Aroma of Honey.

Written for the American Bee Journal
BY R. M'KNIGHT.

In Mr. Cutting's reply to my letter of some weeks ago, he has this query: "Flavor—well, what is it? and how will we decide it?"

I would like to get Mr. Cutting out of his dilemma, at the same time assuring him it is a very important quality in determining the merits of honey by all good judges. Lest I should fail to make myself clear, I will quote the definition Webster gives of the term. "Flavor," he says, is "the quality of a substance which affects the taste or smell in any manner. We say tea has a fine flavor or a disagreeable flavor; fruit has a good or bad flavor. Taste, odor, fragrance, smell."

That a good flavor, then, is an essential quality to good honey goes without saying, and the man who considers it a doubtful one, would not make a good judge of honey.

There is another quality in most honey that is closely allied to flavor; that is, aroma; where this is present it affects the flavor and is in a measure inseparable from it. Aroma is defined as "the quality of plants or other substances which constitute their fragrance." From this it will be manifest that flavor and aroma are the two properties in honey which render them agreeable or otherwise to the taste. That they occupy an important place in enabling judges to make a just award, no one will doubt. Some judges accord them the dominant place in deciding upon the general quality.

There has never been a satisfactory scale of points fixed as a standard for judging honey, as there has been in

judging poultry and some other things; nor is it likely there ever will be, because of the variety of kinds, and the wide diversity in their properties, so that the judging of honey is largely a matter of personal predilection. However diverse judges may be in their opinions, there is one property that all recognize as being necessary in a high-class article of honey, and that is good flavor.

In 1889 there was a long discussion in the *British Bee Journal*, with the view of formulating a standard consisting of points by which honey should be judged. As might be expected, there was considerable diversity of opinion on the subject, but all agreed in giving flavor a high place in the test.

A sub-committee of the Irish Bee-Keepers' Association accorded 25 out of 100 points, where they gave to aroma 5. Others gave it 6 points out of a total of 20, with aroma 1 in the scale. One very good judge declared that flavor was entitled to 40 per cent. in the merit marks. All of which goes to show that flavor is no doubtful quality in honey, but is one of the most important properties it possesses.

Both the flavor and aroma of honey—especially its aroma—it affected by age. Time and exposure will practically dissipate aroma altogether. The process of ripening unripe honey injuriously affects both the flavor and aroma of honey, whether this is carried on in or outside the hive.

Perhaps more of this anon. Meantime, I hope I have given some enlightenment on the question of flavor.

Owen Sound, Ont.

Decorating Sections of Honey.

Written for the American Bee Journal
BY C. H. DIBBERN.

The finer grades of comb honey will perhaps always remain a luxury, and how to produce this article in the most attractive form has always been a constant study with our most progressive producers. Most of us recognize the fact, that it is the beautiful appearance of a section of honey, more than anything else, that helps to sell it, and although we produce it for our own use, or to give to our friends, it is a great satisfaction to have it just as attractive as can be.

But here comes in the question—How can we add to the beautiful appearance

of a section of honey as produced by the bees? We must, of course, furnish bright, new sections, holding not over one pound each, filled with foundation. Of sections we have full control, and if we fail to use the best, the bee-keepers, and not the bees, are to blame. Of the honey filled in by the bees, we have not so much control, and often when we have planned as best we knew how, we find our snow-white sections filled with honey-dew, black as ink. These disappointments have come to us in the past, but it is to be hoped they will not soon occur again.

To get my ideal of section honey, separators must be used, and they should be as wide as the sections, and no part of the outside must be exposed to the travel of the bees. Foundation, of course, is almost indispensable in full sheets, to get the bees to attach the comb to the section bottom.

Now when all is well done, and we have the beautifully white capped honey in new white sections, we may ask: Can we not do something more, to make our product even more attractive? But as the true lover of nature looks at these sections of snow-white, beautiful comb honey, the hopelessness of making them more attractive must be apparent. Can we make the rose more beautiful by daubing paint on its petals? Section honey, when in nearly perfect shape, is simply beyond improvement, and all efforts in that direction must end in dismal failure.

Nevertheless, I have seen honey on the market in sections that were painted a bright red, others that were stained a cherry red, or mahogany color. Did this add any to the appearance of the honey? No, it rather indicated that something was covered up, and the honey had a queer look, and if the sections were new and clean, the paint and stain were only a detriment. But can nothing be done to render section honey more attractive—is nothing admissible? Well, almost nothing. A small rubber stamp with bright red ink can be used, and I am not sure but that it is a real improvement; but beyond this, nothing. The stamp, too, will advertise the producer, and be a guarantee to the buyer.

SHIPPING-CASES FOR HONEY.

As to the shipping-cases to hold these sections, it is not so important about paint and stain. I have seen cases painted a black walnut color, that really looked quite neat, and the white edges of sections, and delicate comb honey,

looked very attractive through the glass. I should prefer to ship my honey in cases painted black, rather than have them go stained or dirty.

But even when applied to shipping-cases, it is very doubtful if anything can be gained by paint—nothing seems so neat and bright as new, planed boards. The whiter the wood the better it pleases me for sections, even though the comb is capped yellow, or even dark. Somehow it lends a charm of neatness, that can be secured in no other way.

As to the cases, it is perhaps just as well, if not so white. Pine is plenty good enough, and if quite yellow, showing the grain of the wood, all the better. But whatever the cases may be, let the inside be so neat, new and clean, as to be a surprise and delight to the receiver.

Milan, Ills.

"Darwin on Bees."

Written for the American Bee Journal

BY ALLEN PRINGLE.

On page 594, Mr. G. W. Demaree has a paragraph with the above caption, which reads as follows:

"I always smile when reading the learned works of *scientists*, when they alight upon the subject of bees. It hauls down the curtain, gives me a peep into the soundings of their mighty achievements in science, and helps me to put a proper estimate upon their assumptions, generally."

This is rather too indefinite. It is what is called a "glittering generality." Will Mr. Demaree give us some particulars? Here is a sneer at scientists in general, and a charge against Darwin in particular—with no *particulars* to make good the charge. "Assumptions," indeed!

If ever a charge was unjust, the charge of assumption against Darwin is an unjust one. Of all the great scientists, Darwin was, perhaps, the most careful to assume nothing as true without proof. He was a man of facts, of truths, of verifications; not a man of theories, speculations or "assumptions." Everybody who has read Darwin knows this—at least everybody who has read him, but *not* through the highly-colored glasses of prejudice. When Darwin reaches a conclusion from facts, instead of trying in any manner to force the conclusion on insufficient data, or to suppress what may appear to be against

it, he actually states the objections to it and the evidence against it, with perfect candor, and with a clearness and cogency beyond the ability of his puny critics.

Will Mr. Demaree be kind enough to condescend to facts and particulars (these were the stock in trade of the great naturalist he refers to), and give us some of Darwin's "assumptions"—"upon the subject of bees?" Give us the name of the book, the page, etc.; and oblige those who respect the name of Darwin.

Selby, Ont.

The Climates of California.

Written for the American Bee Journal

BY DR. E. GALLUP.

Letters of inquiry pile in on me so that I cannot find the time to reply to them individually, and the editor will oblige by allowing space for me to reply by wholesale.

Now I will try to give a brief pen-picture of California climates, for we have "climates" here instead of "climate." We will commence at San Francisco, which has a raw, cold climate in winter, yet Oakland, just across the bay, has a fine climate. Now take a steamer and come down the coast, and we usually find the ocean rough, and the passengers—many of them—sea-sick, until we pass Point Conception, when, presto, what a change! The ocean is smooth as an inland lake, and the air is balmy and delightfully pleasant.

At Santa Barbara we find two climates—one at the lower part of the city, and another up at the Arlington Hotel, or the Old Mission, and we can go a mile further and find a splendid climate for the consumptive. While residing at Santa Barbara I went over the Saint Inez Mountains on the stage, and I saw a sight that I shall always remember. I looked down on the top of the clouds, white, fleecy, and waving like the billows of the ocean. From below one sees the black side of the clouds only.

From Santa Barbara we come by land. At Rincon we saw a cosy little home with a nicely trained and trimmed tomato hedge, where we could pick ripe tomatoes from the hedge year in and year out—a perpetual bearing hedge.

At Ventura we find two distinct climates within a few rods of each other—especially in winter. As soon as the sun goes down, the cold wind comes

rushing down the avenue from the mountains, cold and raw, and yet just around the Point, in the city proper, the air will be as warm and balmy as one could wish.

The Ojai valley, 16 miles from Ventura, in Ventura county, is noted as a health resort, and especially for consumptives. It is a warm, sheltered nook, free from fogs and chilly winds, fitted up with its hotel, cosy cottages for rent, etc. So noted is this locality for consumptives, that Santa Barbara editors, in describing their climate as a health resort, steal the Ojai valley, although 60 miles away in another county, and claim it for Santa Barbara.

The Santa Clara valley in Ventura county is very windy, both in summer and winter, but it is a rich agricultural valley. Los Angeles, the next county south, is sneeringly called by northern editors, "The one-lunged county," as one meets so many people that have come here with diseased lungs, and obtained their health. Los Angeles city has its distinct and different climates in the city limits.

Pasadena, where a large majority of Eastern tourists stop, is in reality a suburb of Los Angeles city. It is close up to the snow-capped mountains. The days are warm and pleasant in winter, but the nights are cold, as the cold air settles down at night from the mountains. Here they boast of two photographs, entitled, "From snow to roses in 48 minutes." The one was taken where the men and pack-mules were toiling through the snow nearly up to their knees, while the artist on foot, and carrying his camera, in just 48 minutes, "took" a beautiful home with roses and other flowers in full bloom—gentlemen and ladies in the act of picking the flowers; and they ask, where else in the known world can we find such a contrast in so short a time?

All the coast counties have more or less fogs, but that is just what makes them rich in agricultural wealth; and all have their localities perfectly free from fogs and unpleasant currents of air.

The interior counties are hot, as a general rule, in summer, and still they have their healthy localities, where it is cool and remarkably salubrious.

The next county south is this (Orange), and we have *almost* all kinds of climates—within the limits of the county. Santa Ana is located in a large valley, and some 60 miles from the nearest snow-capped mountains, 10 miles from the

ocean, and 34 miles from Los Angeles. Therefore, we have a much more even temperature—not nearly as much change from night to day, and from day to night. I am 73 years old, almost invariably in my shirt sleeves about home; wear no underclothing in winter or summer—just a light pair of pants (without lining), vest and shirt. My three little ones go clothed just as lightly. We sleep with our doors and windows open the entire year, and have had to keep up a fire only two days the past winter. The little ones are out in the open air every day, and nearly all the time. We have a fire only mornings to cook breakfast by; the other meals are cooked by a gasoline stove, to prevent heating the house. We scarcely ever take a cold, and, if we do, it is very slight. Perfect pictures of health and vigor. Now why is this the most perfect air on the continent for diseased lungs?

The Mexican people kill and dress their meat and hang it up in the open air, cut in strips, and it cures perfectly without salt or any preparation, both in the valleys and on the mountains. It may be the same in Colorado, Utah, New Mexico or Arizona—I do not know, but I do know that anywhere in the East or South meat would putrefy and be alive with maggots in hot weather, treated in the same manner.

Now for one case: A young man from Chicago came here, and I was sent for. He was quite emaciated, had night sweats, hectic fever, hemorrhages, and a racking cough. I sent him up to Mr. Pleasants, 20 miles from here. The directions were these:

"Sleep with your doors and windows open; keep out-doors in the day time. You can commence climbing the mountain at the door a little, easily and gradually. Sit down and rest as often as you like. Take no medicine of any description. Pure air is the very best expectorant in the known world. Take a towel wet in cold water, wringing as dry as possible, then rub the skin all over at night on going to bed. Mr. Pleasants will help you at first, until you are able to do it yourself. Get up a good action in the skin as soon as possible."

Three months afterward I went into a barber shop, and a young man reached out his hand, with "How do you do, Doctor?" I could not recollect ever seeing him before, but he soon made himself known. A perfect specimen of health and vigor.

The above is only one case out of many. There is an appreciable differ-

ence in the climate between the east and west end of Santa Ana, and a mile south of town there is a great change in going 20 rods in winter.

Now, the person who cannot find a climate to suit in California, with such a variety to select from, and in so short a distance, will hardly be satisfied when he goes to "that bourne from whence no traveler returns."

Recollect that California is a great State, with climates 12 months in the year.

Santa Ana, Calif., May 14.

Hives at Experiment Stations.

Written for the American Bee Journal

BY G. D. LITTOOY.

I would like to suggest that in connection with the experiments at the different Experiment Stations, they take the hive into consideration, and have experiments made by using a number of the different kinds of hives now in use, and experiment so that we may know (that is, if it is possible to find out) which is the most practical hive for general use. This is a very important subject, it seems to me, as there are so many different hives put on the market claiming superiority over all, that is misleading, and an imposition on beginners, as they can only decide for themselves, and are not usually good judges of what hive they ought to adopt.

If we could get information from where we could consider it reliable, it would be of great assistance. It has been suggested that the bees tell us which they prefer—the 8 or the 10 frame hive. Why can they not tell us also what kind of hive they prefer, in which will they give us the most surplus, and also winter the best, so as to come out in the spring strong and healthy?

I think such an experiment will assist us in not being misled by alluring advertisements, and adopt something that is not practical, and will be compelled to soon discard, or not be able to compete with our neighbors who have the practical hives, and then be at an expense and loss by being compelled to adopt another hive.

If we could get a few reports from practical bee-keepers, from time to time, as to their experiments, and what they consider the best hive, it would be a great help. Reports could be given in the bee-papers, and also at the conventions this should be discussed. Many

subjects have been discussed in the bee-papers the past year, but very little on this important question. I think this would result in keeping all bogus hives out of the market.

I shall experiment this season with different hives, and try in this way to get this subject settled for myself. Out here in the Northwest we have long, rainy winters to contend with, and but very little of cold and frost, except for a few days in January, and then it is only down to zero for a few hours at a time.

We expect to have a bee-keepers' convention here next fall; also an Inter-State Fair, and I am preparing to have a honey exhibit, and expect to make a good display of Tacoma honey. Bee-keeping has become more general here within the last year.

Tacoma, Wash.

[We should like to hear what Mr. R. L. Taylor and others think about the suggestion offered by Mr. Littooy.—Ed.]

More About Lucerne or Alfalfa in Utah.

Written for the American Bee Journal
BY HOMER BROWN.

Alfalfa is said to be a local name for lucerne. Let that be as it may, lucerne is the universal name for the plant here in Utah, and possibly Mr. Webster will say we are right. But now for the plant itself.

In this part of the world it has a dark blue or almost purple blossom, but I am told that in some places it has a yellow blossom, and I have seen an occasionally almost white one (perhaps Prof. Cook would enlighten us on this); and it grows, all the way from one to five feet high, according to soil and circumstances.

I fear it will not be a particular favorite with my friends who live in a rainy country, especially when it comes to curing the hay, for when it comes to having from two to four or more tons to the acre, of very juicy hay to cure, it wants a very dry atmosphere to do it, without even much dew, let alone rain. The tedder would have to be used continually, which would be apt to greatly injure the crop by knocking off all the leaves. The hay-tedder is an implement that the writer has never seen in Utah.

There are many localities and soils that are not favorable to lucerne. Wet ground, where the water stands within

one to two feet of the surface, is sure death to the plant when the roots strike the water, or soon after, although it may do well for a year or two.

There are different opinions about sowing the seed; some think it should be covered as light as possible, with a very light harrow or brush. I have had the best success by sowing with a broadcast seeder with spring teeth, and put the teeth down as deep as for wheat or oats. My neighbor saw me sowing the seed in this way, and wanted to know if I ever expected to see it again; he thought I never would, but when he saw the crop I cut, he gave it up. My soil is sandy. Soil and location will probably make a difference.

I sow from 20 to 30 pounds of seed to the acre, and have never seen any that was too thick. Some prefer the coarse, woody stalks from thin sowing, which may do very well to sell, provided you can find a customer that wants that kind, but I have not been able to educate my stock to eat it. Some may think they can thicken it up after, if they sow thin at first—I would say, "Don't do it."

Now if any of my bee-keeping friends think of trying the lucerne in a locality where it has not been tried, I would say, try it on a small scale by drilling a few rows the same as they would onions, and they can soon tell if it is adapted to their locality. If they are in the irrigating region they need have little fear if the soil is suitable. Three crops a year is the usual thing in the vicinity of Salt Lake, but in the north part of Utah only two crops, while in the southern part they cut four or more crops if the water supply holds out.

If I am rightly informed, the people of southern California cut as high as 9 crops. I know that I saw them cutting lucerne the 15th of January in the vicinity of Los Angeles; therefore it is no wonder that they beat the rest of us in producing honey. Pardon the digression, but how many of the readers of the BEE JOURNAL would believe that a tomato-vine would bear fruit continually for five or more years? If my Northern friends will go to southern California, they will see it for themselves. That beats planting in hotbeds.

SWEET CLOVER IN UTAH.

Now just a few words about sweet clover: I think it is Dr. Miller who says that people do not know just what sweet clover honey is. Well, perhaps he is right, for it would be pretty hard to tell

what kind of flower every bee visited to obtain its load of honey, but here in Utah we know that it is neither basswood nor buckwheat honey, for the writer has seen but one basswood tree in Utah, and not a field of buckwheat for more than 20 years. Lucerne, sweet clover and Rocky Mountain bee-plant are the main sources of honey-production in this vicinity, and of course we think we have the best of honey.

Now I hope no one will think that I have "an axe to grind," for I am not in the seed business, but would like to hear through the BEE JOURNAL what success others have had with lucerne and Rocky Mountain bee-plant in different localities.

Taylorville, Utah.

Extracted Honey—Carniolan Bees.

Written for the American Bee Journal
BY E. H. STURTEVANT.

Mr. John Towle, of Wisconsin, asks the following questions, suggested by my letter on page 345:

1. Do you practice feeding back extracted honey to fill sections?
2. Do you have the Carniolan bees? and do you recommend them?

To prepare honey the way I do it for the waxed-pail packages, I take off the honey and grade it before extracting, and for the best results it should be all sealed, unless unfilled sections, or those with faults of any kind needed for comb honey, if not until the next season, which I extract and have ready, and it pays, too.

Extract as early as possible, using open tanks. Keep the room warm when not at work, and the tanks covered at all times with strainer-cloth. Let the honey stand until thick and well cured, and longer if convenient.

Wax the wooden pails by filling nearly full with melted wax, having inverted them over a hot stove, so the wax will penetrate the wood when put in, and you can immediately turn the wax into another pail or boiler (if the pail is not hot); tip the pail so the wax will reach near the top; the bottom of the pail gets the best penetration while you are tipping it, and that makes it durable.

After filling with honey, a paper cover and then a wooden cover is tacked on so it will not warp. Honey evaporated to an extent to make it dry and hard early in the fall, will retain all its good quali-

ties for many years, and when remelted and thinned with a little water, it is very desirable, many times, and more so than comb honey, as the poison is evaporated, and people can use it that could not eat comb honey; but put up thin it is sure to become tart and sour if kept in a damp place.

Dr. Miller, in his "Year Among the Bees," says to drain it after it is candied; but if treated thorough and kept in a dry place it is O. K. I am sorry that he should object, and criticise the friends when they are trying to get extracted honey where it belongs in the world.

Some one said truth should not be spoken at all times, but when people call for a good article of extracted honey, and are willing to pay extra for it, I suppose Dr. Miller will tell them they need not do it; but I hope he won't do it any more. I like his book, and almost all we hear from him. When I have any trouble with bees or their management, I read it over again, and it is the most practical and interesting to me of any. He talks so plain that I can see just what he is talking about all the time. I hope he will go and see Mr. Melbee, and fix it up with him, and go to extracting, then he will want a good price for his best honey, and will tell why, the same as others do.

A customer living in White Hall, 12 miles from me, has just sent to me for a 20-pound pail of my good honey, put up in wax, and says it is worth double the price of comb honey for him, besides being better any way. He saw me put up some a year ago, and does not want any more comb honey when he can get a good article in wax. I sent him the honey gathered four years ago, as he asked me to do. How is that? Now if all the surplus honey of last year, that is unsold, was prepared in this way, there would be no trouble in disposing of it better than could be done now after the new crop comes, unless it proves to be a poor crop.

Ans. No. 1.—Now what does Mr. Towle want to feed back for, when he can get a good price for good honey (which he must have), and lose $\frac{1}{8}$ to $\frac{1}{4}$ or more of it, besides his time and trouble; and then after it is fed back it will not keep long without granulating. So I extract the unfilled sections, and those filled with poor honey, etc., when, if not until next year, they will be of great value for early comb honey—don't you see? No! no! I never feed back, only for winter and spring, and I use a frame with wooden sides nailed and

waxed, and I want no better, although I have the large Heddon feeder to feed cappings back with.

ANS. No. 2.—I keep Carniolans because they prove the best with me, and also for anybody surrounded with blacks, for the cross of blacks and gray Carniolans is much better than with Italians, and easier to handle, more so than blacks and Italians. They also winter better, and are good white cappers, use no propolis, only to stop cracks when necessary, and many times hardly any. They are early and late workers, want lots of room for the "goods," and if they can't have it, they will get out, for they look for long winters.

I do not think it is a fair statement to make that Carniolans are excessive swarmers, for when properly supplied with room and shade, they seldom swarm. But few swarmed last year. By judiciously adding storage-room so that when the large flow comes in a shower, they will have a large plant to dry out the nectar in—a strong colony will use more room at this time than most people think, and that is where the profit comes in. I use as many as seven stories, on an average, and with two queens as many as nine stories at a time, the capacity being 1,600 to 1,800 inches in each of comb.

Now comes the time to answer why I recommend them still more, and that is because I can take down and overhaul this stock of hives with Carniolans when with other crosses I would be driven off with the job half done. They keep still until you are through, but for a small hive and super only I can get along with any bees, but they will all swarm then, and this is the stand-point from which they are condemned, and if the hives were still smaller, they would still swarm more yet. But for Mr. Towle and me there is the most money in the Carniolans, with room, shade, and honey to gather. If more would try them, as I have, they will be surprised at what else they will do. I could tell many things, but I have said enough, telling it as poorly as I have.

Ft. Ann, N. Y.

[Perhaps if the reader will turn to page 345, and read Mr. Sturtevant's former letter, some parts of the foregoing will be better understood.—Ed.]

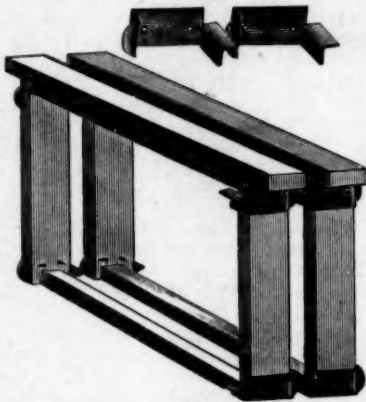
One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

The Stephens Frame-Spacer Described.

Written for "*Gleanings in Bee-Culture*"

BY GEORGE W. STEPHENS.

Some years ago, when I began to keep bees, I used loose hanging frames, and I found it almost impossible to get straight combs, from the fact that, no matter how particular I was in spacing the top-bars with my fingers, by guess, the frames would not hang straight, and the bottom-bars would be out of plumb, some being close together, and others far apart. The consequence was, the combs would be correspondingly out of shape—the cells on one side being built too deep and on the other too shallow. I tried



several methods to remedy this, but none proved satisfactory, until one day, about two years ago, I had the fortune, or misfortune, to be forcibly struck with a sudden idea. That settled it, and my spacer as illustrated here is the result of that idea; and it has not been changed in any particular from the original idea that I was "struck" with. I immediately made some of them, and showed them to every bee-keeper whom I met, and, without exception, they pronounced the device a good thing. Thus encouraged, I concluded to have it patented, and my letters patent bear date of Feb. 14, 1893.

I presume there are thousands of bee-keepers who are still struggling with loose hanging frames, who would be glad to change to a fixed frame, but are deterred from doing so on account of the expense. It will readily be seen that these spacers can be easily affixed to the frames they now have in use, at a nominal expense. I am not prepared to say

how cheaply they can be made, as I have not invested in any machinery for their manufacture, and do not know what they would cost; but it is reasonable to suppose, from the cheapness of the material of which they are constructed, the number in a pound (80 to 85), and that they can be stamped out very cheaply with suitable dies, that they can be made and sold at a comparatively low price. I have made 10 or 12 pounds of them by a slow process, partly by hand; and, although they are not as perfect in shape as machine-made ones would be, they are nearly so.

The spacer is constructed of No. 20% band steel, which I find is strong enough for all practical purposes. The pieces are cut of sufficient length to allow one end to be bent inward about $\frac{1}{4}$ inch, and then outward $\frac{3}{16}$, the projecting vertical edge being cut circular. This flange being circular, there are no corners to catch, and the frame slips into its place in a surprisingly easy manner, and without jar. The other end is bent inward $\frac{1}{2}$ inch, and then cut and turned downward to the middle where it is cut off, leaving a horizontal flange $\frac{1}{2}$ inch wide, and projecting $\frac{3}{16}$ of an inch. These are nailed to the end-bars at the four corners of the frame, the two at one end with the circular flanges pointing one way, and the two at the other end pointing the other way, like two persons going around the same way in a circle and stopping at opposite sides; they would then face in opposite directions. The end-bars are to be just one inch wide; and as the projections on either side of the end-bars are $\frac{3}{16}$ of an inch, the spacing will be $1\frac{1}{2}$ from center to center; but they can be made to space a greater or lesser distance by having different-sized dies.

As will be seen, when these spacers are affixed to the frames in the hive, the projecting flanges (one being vertical and the other horizontal) cross each other, thus affording the smallest possible contact between the frames, and preventing the bees from gluing the frames together; in fact, it will be impossible for them to do so to any appreciable extent. The horizontal flange is made $\frac{1}{2}$ inch wide. This allows a play of the frame endwise nearly $\frac{1}{4}$ of an inch without the flanges slipping by each other and becoming interlocked.

However, I would recommend that the bottom-bars be made so as to project at the ends $\frac{1}{4}$ of an inch, the ends being reduced to a point, or a round-headed nail be driven in, or, what I consider

better still, a staple-tack driven into the ends of the bottom-bar, projecting $\frac{1}{4}$ of an inch, with the head vertically disposed. This makes an excellent guide to the frames, and facilitates handling them; in fact, if the bee-master should be so unfortunate as to get stung in the face, and his eyes become closed, he could still manipulate the frames without any trouble, and get each frame in its proper place.

Any frame in the hive can be removed and replaced without disturbing any of the others, if the combs are straight, and it is very easy to have straight combs with proper spacings at fixed distances. Also, any frame may be turned end for end, or it may be taken out and shifted to any other part of the hive, and the gap closed up by sliding the frames along the rabbet, and it will still fit. Frames may be changed from one hive to another, or from the extracting-supper to the brood-chamber, and they will always fit just where they are wanted.

For bearings at the sides of the hive, use double-pointed tacks or staples, preferably $\frac{1}{2}$ or $\frac{3}{4}$ wide, driven in and allowed to project $\frac{1}{2}$ of an inch. These are so disposed at the corners of the hive horizontally and vertically that they must meet the corresponding flanges of the spacers crosswise, the same as the flanges meet each other.

Crawford County, Iowa.

[Mr. Stephens has sent us a model showing his frame-spacer, which looks as if it would do and be all he claims. It certainly will hold the frames in exact position, preventing any variation, of themselves.—EDITOR.]

May-Flowers and Mistletoe is the suggestive name of a book of over 250 pages containing selections of poetry and prose for all seasons, for older boys and girls, from the best writers of the day, with dialogues, motion songs, and drill exercises for smaller children. It is suitable for rhetorical exercises in the school and entertainments given by church, library and benevolent societies. Beautifully illustrated, and each poem or selection set in a colored border. Cloth-bound; size, 8x10 inches; price, postpaid, only \$1.00. Clubbed with the BEE JOURNAL for one year—both for \$1.75; or given free as a premium for sending us three new subscribers to the BEE JOURNAL for a year.

Have You Read the wonderful Premium offer on page 707?

"No Bees—No Fruit."

Written for the American Bee Journal
BY ED JOLLEY.

I had a dream, and it seemed to me
Satan was again at the apple-tree;

A serpent again, as he was of yore,
Coiled on the tree, with his head on a bough,
And a smile of deceit on his darkened brow—
The same old smile he had used before
When he beguiled Mother Eve so long ago,
And brought us to sorrow, sin and woe.

As he lay in the branch I could plainly see
For mischief again he had come to the tree;

He seemed to think he was all alone,
So aloud to himself vile work he did plan,
To add to the misery of fallen man.

As he thought of the blessings God had bestowed
In the beautiful apple, peach and pear—
'Twas more than ever the demon could bear.

As he softly unfolded his plans to the breeze,
I heard him say something about fruit and bees—
Something about what the bee had done,
Something about the fruit and the seed
Being the work of the bee, indeed!

Satan laughed aloud at his plan for fun—
"That I have power man can't dispute,
When I've banished the bee and taken his fruit!"

He now crawled down from the balmy shades,
Down he went to the place called "Hades;"

But he soon came back with his devils all;
He dressed them up in fine array,
Making them look both grand and gay,
Like hornets, bugs and birds; but all
He sent forth to tear open the fruit—
All working together regardless of suit.

Satan he went that selfsame day
To an apiary of bees not far away;

As he moved away I followed to see,
And heard him say to the hard-working host:
"The bugs and the birds are getting the most
Of all the ripe fruit that hangs on the tree;
Its all opened up, a rich and rare feast,
You'll come, I'm sure, and taste it, at least!"

Away haste the bees, full many a score—
But, behold, the fruit was gone to the core!

The devil now goes to the fruitman's ranch,
Saying, "My dear, sir, just come with me,
And see the vile work of the horrible bee!"

The fruitman went, and it took but a glance
To see the great havoc done to his crop—
He raised his hand as he said, "It must stop!"

The fruitman first some poison sprayed,
And then with a torch to the apiary strayed.

Satan laughed in sheer delight,
For not a bee was left alive—
Nothing but ashes where once stood a hive.

The scene was changed as is day from night.
As Satan sped away he said: "It did seem
'No Bees—No Fruit.'" I waked from my dream.
Franklin, Pa.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for \$1.40.



Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

White Clover Plentiful.

Bees are booming. White clover is plentiful, and we hope for the best.

W. N. KING.

Ebenezer, Mo., May 25.

Saved All the Swarms.

I have had 51 swarms and saved them all. I now have 107 colonies, and all in fine condition.

F. J. R. DAVENPORT.

Nash, Tex., May 20.

White Clover Blooming Profusely.

The outlook for a honey crop here is favorable at present. White clover is beginning to bloom profusely.

JAKE EVERMAN.

North Middletown, Ky., May 26.

Bees Doing Splendidly.

Bees seem to be doing splendidly thus far in this locality. I had my first swarm of the season on May 16th, which is the earliest I ever knew bees to swarm in New Hampshire.

MRS. O. G. HOWE.

Tilton, N. H., May 21.

Honey Coming in Freely.

We have 45 colonies in prime condition. We have supers on nearly all of them, and honey is coming in freely from flowering maple. Bees will not work in the sections as readily for us as in shallow frames for surplus.

F. I. HUBBARD.

Beaver, Oreg., May 20.

Adulterators—Bees in Good Condition.

I see by the "Old Reliable" that honey adulterators are getting "Hail, Columbia!" and I hope that it will be kept up as long as there are some who will adulterate honey, and then sell it for pure honey. Give them fits!

Bees are in splendid condition here this spring.

FRED M. HOGAN.

Elkhart Falls, Kans., May 25.

Poor Outlook for Honey.

The weather here has been very dry and hot all spring. The bees seemed to be gathering a great deal of pollen, but last Friday night we had such a hard frost that now the catalpas, mulberry and locust trees, potatoes, peas, beans, grapes, and vines of all descriptions are all dead, and what few patches of alfalfa there were around are also considerably damaged, so the outlook for honey is slim, until corn and buckwheat time; and if we don't soon get a rain we won't get much from them.

J. C. KNOLL.

Glenwood Park, Neb., May 22.

Hopes to Get Some Sweets.

The bees are doing finely, and I hope we will get some sweets for the buckwheat cakes this year. I did not have one ounce of surplus in 1893, and had to feed the bees in the fall to get them through the winter, and then some of them froze with plenty of stores. So far we have had no swarming. It was very dry last summer, and a drouth with us means a failure of honey. We have last year's bee-supplies on hand, and I trust we can use them this summer.

SAMPSON STOUT.

Udall, Kans., May 26.

Bees Wintered Well, Etc.

We had considerable warm weather here early this spring, but lately it has been cold, and on May 19th this section was visited with a severe frost, with ice as thick as window-glass.

Bees have generally wintered as well as usual, and seem to be in good condition. Some wild colonies I found last fall in the timber, and left there to winter, have come through in good condition, and are as lively as crickets in August. Fruit bloom was immense, but many think the late freeze has done great damage. It is rather soon to tell for a certainty yet. Many here, after three years of failure and disappointment, are getting discouraged, and bees—what there are, are for sale cheap just now. It is a good time to go into the business, if buying cheap cuts any figure for a starter. Most of the bees kept here are the native or German variety.

Wisconsin, Minn., May 23. L. J. CLARKE.

Discouraging Weather in Tennessee.

The editorial of May 17th makes me feel as if I am in one of the worst places in the United States for bee-keeping. It seems no one was hurt as to the strength of the colony and brood-rearing. It was just the reverse with me. My bees were doing as well as could be expected, the peach-bloom was just over, and the apples were coming in, and my bees were spreading their brood nicely when the cold spell came, and all the early poplar was out enough to get killed, so you see it put us here in a bad fix. Nearly all the brood was chilled, and the

old bees were not able to stand the tug, and I had to feed to save my bees until May 10th, which brought in a fine honey-flow from the late poplar.

The bees did well, considering their strength, for eight days, which brought another storm of rain and thunder. The 18th and 19th brought rain and snow, and on the 20th it was still snowing up to 10 a.m., which had the appearance of a final destruction of all the remaining poplar bloom, and the linden which blooms in June, and the sourwood which blooms in July. So you see we are in despair here in this locality.

The mountains, which are within from one to three miles of me, are covered with snow, where all the basswood is, and I don't see how it can keep from being frozen. I got a report the 19th that the snow was 4 inches deep on the mountain. The like never was known here before at this time of the year.

It is a gloomy time here. The farmers are looking for a freeze, which, if it comes, will kill wheat that is heading, corn, oats, potatoes, beans, and all vegetation. The fruit was all killed in the other cold spell which swept things like a tornado. If that is a comparison. WM. WEBB.

Sutton, Tenn., May 21.

Dropping into Literature!

As the talented BEE JOURNAL shows recent signs of dropping into literature—classical literature, I suppose, and poetical—I take the liberty to send a specimen of poetry attributed to one of the Chinese scholars while being taught at a Christian mission:

"How doth the little busy bee
Delight to bark and bite,
And gather honey all the day,
And eat it up at night."

Kalamazoo, Mich.

E. STRONG.

The Way I Dampen Sections.

I use a small bottle in which I put a wooden stopper with a crease cut on opposite sides, one to let in air, and in the other I place a small quill. The bottle is filled with water, several sections laid on a table with grooves up and in range with each other. The quill is moved slowly along the grooves, and the water flowing from the quill dampens them nicely. The size of the quill must be so regulated as to just let down the required amount of water.

J. W. SOUTHWOOD.

Monument City, Ind.

Packing Honey for Shipment.

I am frequently requested to send instructions to shippers as to the best method of sending honey to market.

Crate from four to six cases of 24 sections each, or if cases are smaller, place in one crate from 100 to 150 pounds. Put large cleats on the ends to take the place of

handles. Do not have handles that project, as they are often broken off by freight handlers to save room, thus jarring and damaging the honey. Place straw in the bottom of the crate, thus making a package that cannot be tossed about as a single case of honey can; and also insuring it against breakage. It is well to have the comb so placed as to be seen through the glass. Don't ship comb honey in a plain box or case without glass.

By publishing the above, it will save us writing numerous replies during the season, and it may come before others who may be benefited by it.

J. A. LAMON.
Chicago, Ill.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.
June 15, 16.—Eastern Kansas, at Bronson.
J. C. Balch, Sec., Bronson, Kans.
July 19.—Carolina, at Charlotte, N. C.
A. L. Beach, Sec., Steel Creek, N. C.
Aug. 16.—East Tennessee, at Whitesburg, Tenn.
H. F. Coleman, Sec., Sneedville, Tenn.
1895.
Feb. 8, 9.—Wisconsin, at Madison, Wis.
J. W. Vance, Cor. Sec., Madison, Wis.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—HON. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Good Honey-Sellers will likely be needed soon, and the little 32-page pamphlet, "Honey as Food and Medicine," has for years proven itself valuable in making repeated sales of honey. Its distribution will create a demand for the honey first, and then the bee-keeper can follow it up and supply that demand. Send to us for a sample copy, only 5 cents; 10 copies, post-paid, 35 cents; 50 copies, \$1.25; or 100 copies \$2.00. Try 50 or 100 copies, and prove their ability to aid you in disposing of your honey at a good price.

Read our great offers on page 707.

Honey & Beeswax Market Quotations.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.
Beeswax, 26@27c. H. R. W.

BUFFALO, N. Y., May 14.—Trade is very slow, and we have still a liberal stock on hand. We quote: Fancy comb, 13@14c.; choice, 11@12c.; dark and common grades, 8@9c. Beeswax, 25@30c. B. & Co.

CHICAGO, ILL., May 10.—The market for comb honey is not of large volume at this season of the year; a fine article of white comb brings 15c. in pound sections. Extracted slow of sale, at 4@6c. Beeswax, 25c.
R. A. B. & Co.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

CINCINNATI, O., May 21.—Demand is very slow for extracted honey at 4@7c. Supply is large. Prices for comb honey are nominal, at 12@14c. for best white. Demand is slow. Beeswax is in good demand, at 22@27c. for good to choice yellow. Supply is scant, and not enough arriving to supply our home trade. C. F. M. & S.

KANSAS CITY, Mo., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.
Beeswax, 20@22c. C.-M. C. Co.

NEW YORK, N. Y., May 25.—New crop of Southern honey is arriving freely. The market is well supplied and demand very light. We quote: Common grade, 50c. per gal.; choice, 55@60c. Beeswax is firm at 28c.
H. B. & S.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 43 South Water St.
R. A. BURNETT & Co., 163 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMONS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Buffalo, N. Y.

BATTERSON & Co., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Convention Notices.

TENNESSEE.—The next annual meeting of the East Tennessee Bee-Keepers' Association will be held at Whitesburg, Tenn., beginning on Thursday, August 16, 1894. All members and other interested in bee-culture are invited to attend. H. F. COLEMAN, Sec.
Sneedville, Tenn.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association at the apiaries of J. C. Balch, 7 miles south of Bronson, to be held June 15 and 16. Bring well-filled baskets and we will have a glorious good time. Plenty of pasture for horses, and shade and good water for man and beast. J. C. BALCH, Sec.
Bronson, Kans.

WISCONSIN.—The next annual meeting of the Wisconsin Bee-Keepers' Association will be held at Madison, on Feb. 8th and 9th, 1895. Madison, Wis. J. W. VANCE, Cor. Sec.

NORTH CAROLINA.—The Carolina Bee-Keepers' Association will meet at the Court House in Charlotte, N. C., on July 19, 1894, at 10 a.m. All interested in the culture of the honey-bee are cordially invited. Steel Creek, N. C. A. L. BEACH, Sec.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the second page of this number of the BEE JOURNAL for description and prices.

Advertisements.**They Do Winter in the North.**

MRS. JENNIE ATCHLEY, Beeville, Tex.
The \$10.00 5-band Breeder came through the winter with a flying colony.
German, Ohio, April 27. J. F. MICHAEL.

Who says Southern Queens won't winter in the North? See my advertisement on another page. JENNIE ATCHLEY.

QUIGLEY'S QUEENS

Produce Big Yellow Bees that Winter Out-Doors, Gather Lots of Honey, and are Gentle. Warranted Purely Mated, each \$1.00; 8, \$5.00 12, \$9.00. They are Beauties! Safe arrival and satisfaction guaranteed.

E. F. QUIGLEY, Unionville, Mo.

Mention the American Bee Journal. 23A4t

**QUEENS**

Either Golden or Leather Colored; as good as any and better than many. Try 1 Queen and be convinced. Satisfaction is guaranteed. Warranted Queen, \$1; Tested, \$1.50; Selected, \$2.50. Address
JOS. ERWAY,
Havana, N. Y.

23C5t Mention the American Bee Journal.

TWO HUNDRED THOUSAND

No. 1 Planer-Sawed Sections, at \$1.25 per M. Widths 1 15-16, 1 1/2, 7-to-foot.

Our No. 1 White Basswood Polished Sections \$2.00 per M. Widths, 1 1/2, 1 3/4, and 7-to-foot.

Cream Sections, \$1.50 per M. Second Quality Sections, 50 cts. per M.; and all Other Supplies at bottom prices. 5 per cent. off on Sections in 10,000 lots.

WAUZEKA MFG. CO., Wauzeke, Wis.

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